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# Anonymous Online Survey of Flight Surgeon Primary Course Graduates and Line Commanders: Evaluation of Satisfaction with Current Flight Surgeon Training

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## United States Army Aeromedical Research Laboratory

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## Introduction

The U.S. Army flight surgeon primary course and the residency in aerospace medicine (RAM) program have undergone a number of changes since their inception. Most notably, hands-on flight training (i.e., incorporating actual use of the flight controls), historically a critical component of both primary and RAM training, was eliminated from the curricula. Today, both the primary flight surgeon and the RAM curricula include a brigade surgeon health service support briefing exercise. This exercise provides hands-on experience which involves identifying and coordinating medical resources in the combat environment and briefing the commander. The impact of these changes on satisfaction with flight surgeon training in terms of ability of course graduates to act as an advisor to unit commanders and as a safety officer, as well as to appreciate and assimilate into the flight environment has not been formally assessed (e.g., survey assessment).

Changes in the primary flight surgeon and RAM curricula may have both positive and negative implications for flight surgeon performance. For example, these training modifications may impact flight surgeon ability to deal with in-flight emergencies, effectively participate in flight-and safety-related functions, and capacity to adequately advise the military commander.

Given the lack of a formal assessment of satisfaction to date, it is unclear if line commanders acknowledge any changes in specific or general strengths and weaknesses in the flight surgeon and RAM course graduates associated with changes in training. Furthermore, it remains unclear if aviation commanders are even aware of training differences between primary flight surgeons and RAMs (specifically, training for RAMs enables the student to be eligible for board certification, whereas primary flight surgeons are trained for qualification for operational assignments). Multiple combat aviation brigades currently do not have RAMs in the position of brigade surgeon, a position in which they would be optimally utilized. One goal of this survey assessment was to evaluate the extent to which line commanders are aware of the unique abilities and training of RAMs.

## Objectives

The objectives of this project were to: 1) Evaluate both line commanders' and course graduates' satisfaction with flight surgeon training; 2) Evaluate the extent to which line commanders are aware of the unique training and capabilities of RAMs; and 3) Identify strengths and weaknesses of flight surgeon training. Additionally, overall opinions on these aspects of satisfaction with the course training provided to RAMs and primary flight surgeons (including aeromedical physician assistants) were compared between graduates of the course and line commanders.

## Methods

### Survey respondents and recruitment

Potential respondents were recruited to participate in the study by means of an invitational e-mail. The e-mail was sent by the principal investigator to all graduates of the primary flight surgeon and RAM programs and to all line (i.e., aviation battalion) commanders of Army aviation units (O-3 through O-6). Flight surgeon course graduate lists are maintained through the U.S. Army School of Aviation Medicine. The name and e-mail address of commanders are published annually in Army Aviation Association of America's publication *Army Aviation*. The e-mail included a website link to a password-protected flight surgeon course graduate (appendix A) or line commander (appendix B) survey. The same password was provided to all respondents to prevent the general public from accessing the survey. Each respondent was instructed to complete the survey one time. No one associated with the respondents' units received information about who did or did not complete the survey as the survey was anonymous. Potential respondents were informed that participation was strictly voluntary. U.S. Army Medical Research and Materiel Command Institutional Review Board reviewed this survey prior to implementation and determined that it did not meet the definition of research. Therefore, obtaining informed consent from respondents was not necessary.

### Survey procedure

To access the survey, respondents clicked on the link embedded in the e-mail. The link directed the respondents to the website hosting the survey. The browser window contained a welcome message and a prompt for the password. Upon entering the password, the survey was available. It took approximately 15 minutes to complete the survey.

In the event that the internet connection was lost or terminated, the respondent was required to re-enter the password and start the survey again. Starting a new survey was required because no personally identifiable information was collected, making it impossible for the survey to be saved and resumed later while keeping responses anonymous.

## Results

### Flight surgeon course graduates survey

A total of 76 respondents (response rate of 58.5%) completed the flight surgeon course graduates survey, 27 of which were aeromedical physician assistants (APA), 42 were flight surgeons, one was a nurse, and 6 identified themselves as *other*. The majority graduated between the years 2005 and 2009, however one respondent graduated in 1996 and one in 2004. Sixty-seven of the respondents (89.5%) indicated that they used their flight surgeon training at least once in the year following graduation. The mean experience as a flight surgeon with an operational unit was 1.47 years ( $SD = 1.49$ ); mean combat deployment experience as a flight surgeon was 3.91 months ( $SD = 5.58$ ); and the mean *on the controls* flight experience was 34.63 hours ( $SD = 236.24$ ).

Respondents indicated the capabilities/skills they felt were personal strengths or weaknesses (figure 1). Respondents also identified which capabilities/skills they felt the U.S. Army School of Aviation Medicine should further develop in new flight surgeons/APAs (figure 2).

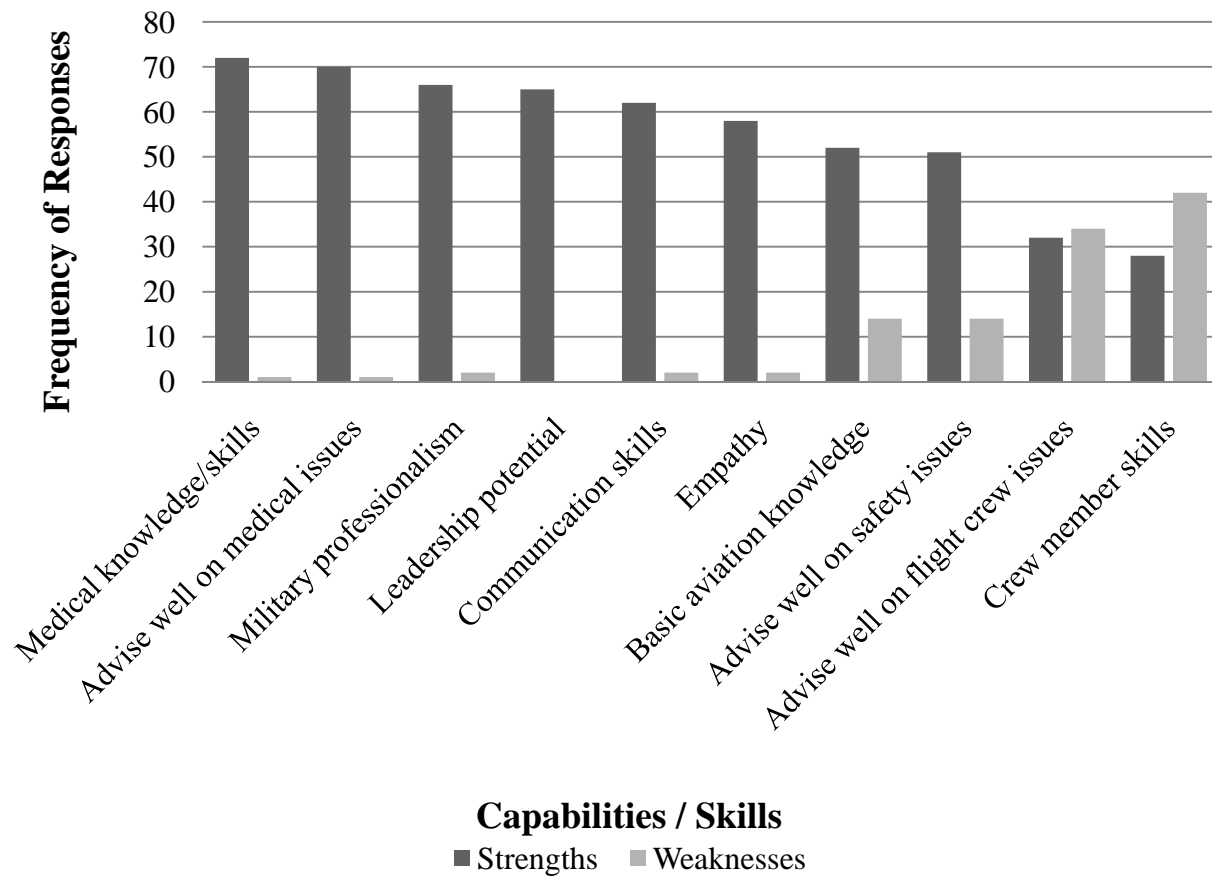


Figure 1. Frequency of flight surgeon course graduates' responses that indicated each capability/skill as a personal strength or weakness.

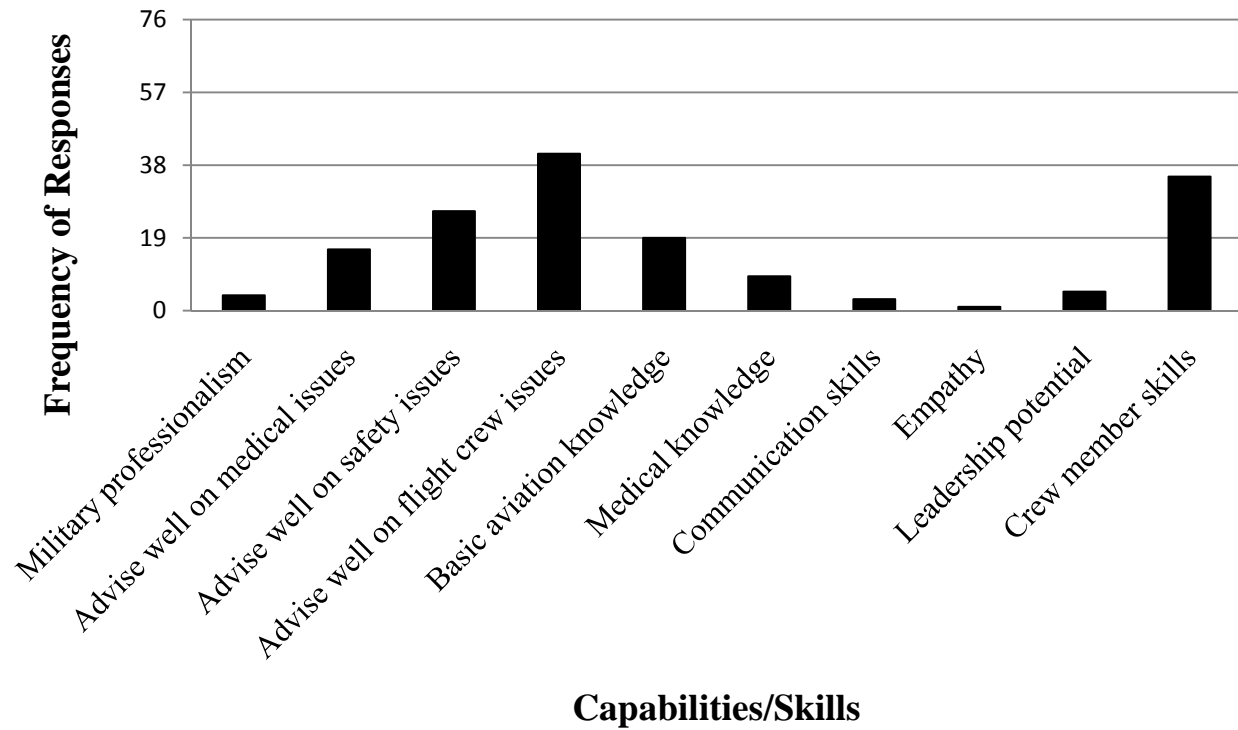


Figure 2. Frequency of flight surgeon course graduates' responses that indicated each capability/skill needs to be more developed in new flight surgeons/APAs.

Respondents then used a Likert scale ranging from 1 (*totally false*) to 5 (*totally true*) to rate the extent to which a series of statements was true. The mean ratings were calculated for each question and are presented in table 1.

Table 1.  
Flight surgeon course graduates' mean responses to proficiency questions.

Question	<i>M</i>	<i>SD</i>
I share a love of flight with the pilots in my unit	3.92	0.92
I really understand what it means to a crew member to be grounded	4.04	0.91
I have a good grasp of flight operations	3.5	0.94
I know what to do in an in-flight emergency	3.53	0.91
I could take the controls in the event of an in-flight emergency/sudden incapacitation of pilots	2.35	1.24
I attend pilot meetings regularly (not including safety/stands meetings)	2.54	1.17
I attend safety/stands meetings regularly	2.91	1.33
I try hard to keep pilots up if possible	4.34	0.75
I understand our unit's mission	4.62	0.62
I understand what air power brings to ground troops/what we bring to the fight	4.74	0.53
I display good crew coordination	3.76	0.88
I have flown the airframes in our unit	2.96	1.62
I fly at least 4 hours a month	3.22	1.51
I can follow a conversation about standardization	3.44	1.03
I can follow a conversation about aircraft maintenance	3.15	1.09
I can relate well to pilots	4.08	0.74
I have enough of an aviation background to make the best possible upslip and downslip medical dispositions	4.01	0.87

Respondents also indicated the extent to which they receive *on the controls* training at their current unit. Responses are as follows: 3.9% indicated *to no extent*, 71.1% *to a very limited extent*, 19.7% *to a limited extent*, and 5.3% *to a moderate extent*. When asked how important *on the controls* flight training experience is for a “flight doc” (i.e., flight surgeon) to render a best possible upslip/downslip recommendation to the commander, 6.6% responded *not at all*, 22.4% *to a limited extent*, 22.4% *to a moderate extent*, 15.8% *to a good extent*, and 28.9% *to a great extent* (3.9% did not respond to this question). All respondents correctly indicated that a RAM is a flight surgeon who completed a 2- to 3- year preventive medicine and RAM training program. Two of these respondents indicated that they are a RAM.

#### Line commander survey

A total of 27 respondents (response rate of 33.75%) completed the line commander survey. Respondents indicated which capabilities/skills they felt were strengths or weaknesses of their current flight surgeons and APAs. Four respondents indicated that they did not currently have an APA. Respondents also indicated the capabilities/skills they felt the USASAM should further develop in new flight surgeons/APAs. The results of this data are summarized in figures 3 through 5.

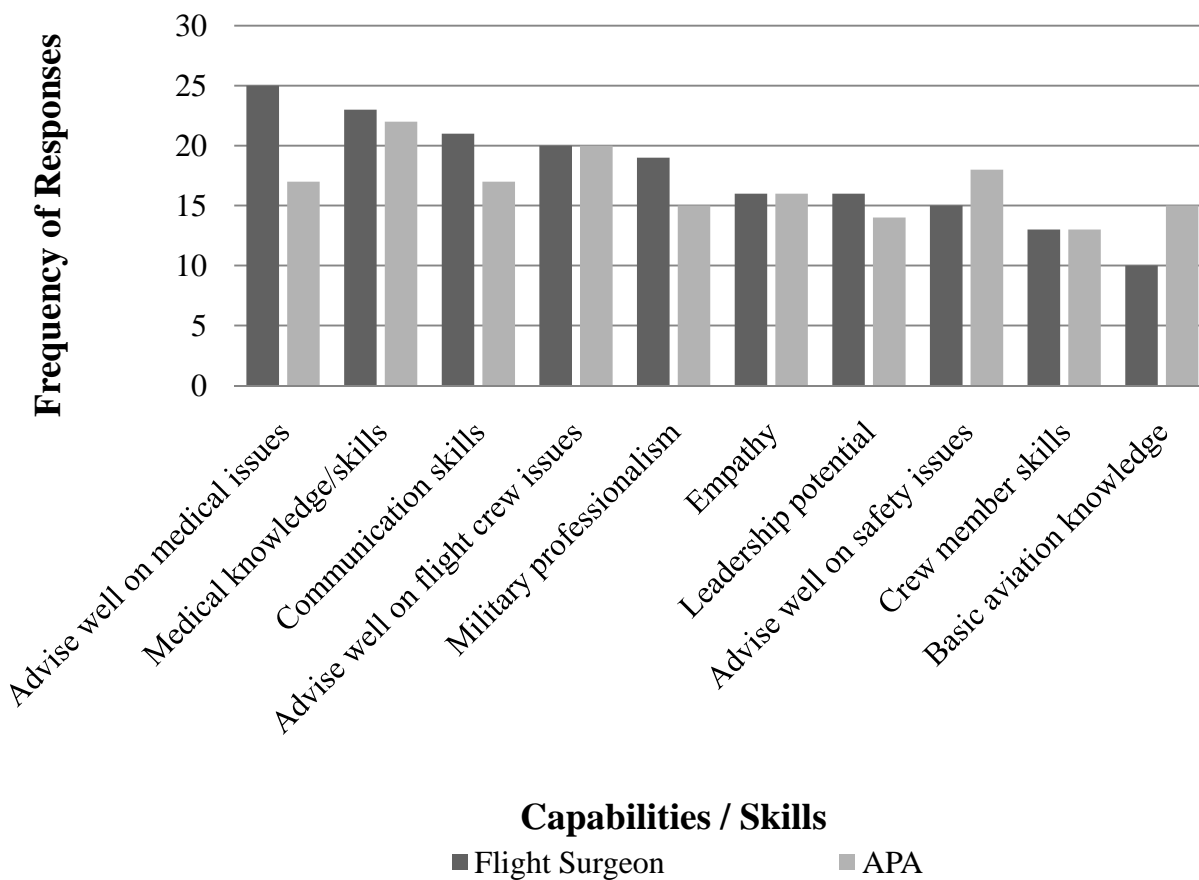


Figure 3. Frequency of line commanders' responses that indicated each capability/skill as a strength of their current flight surgeon/APA.

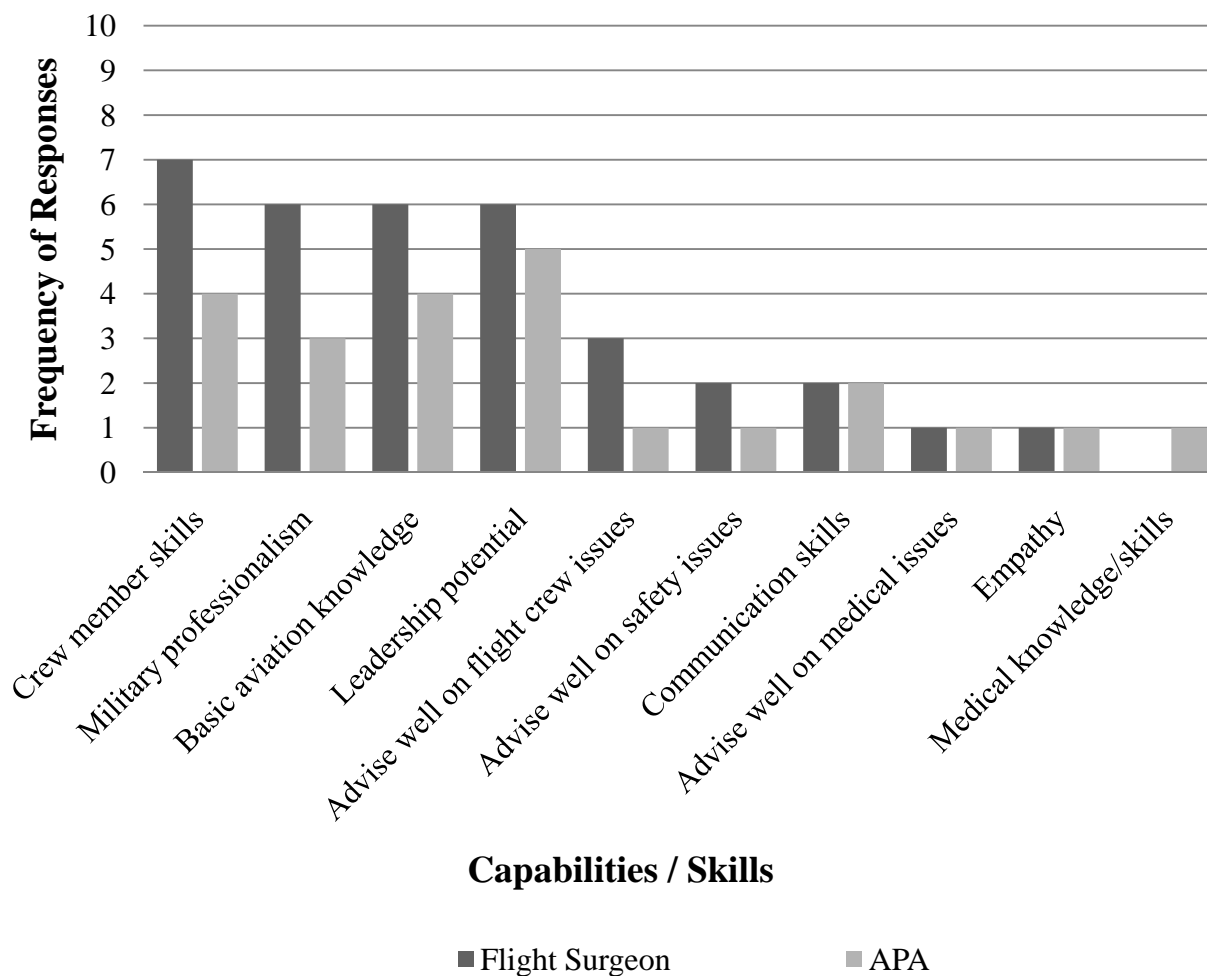


Figure 4. Frequency of line commanders' responses that indicated each capability/skill as a weakness of their current flight surgeon /APA.

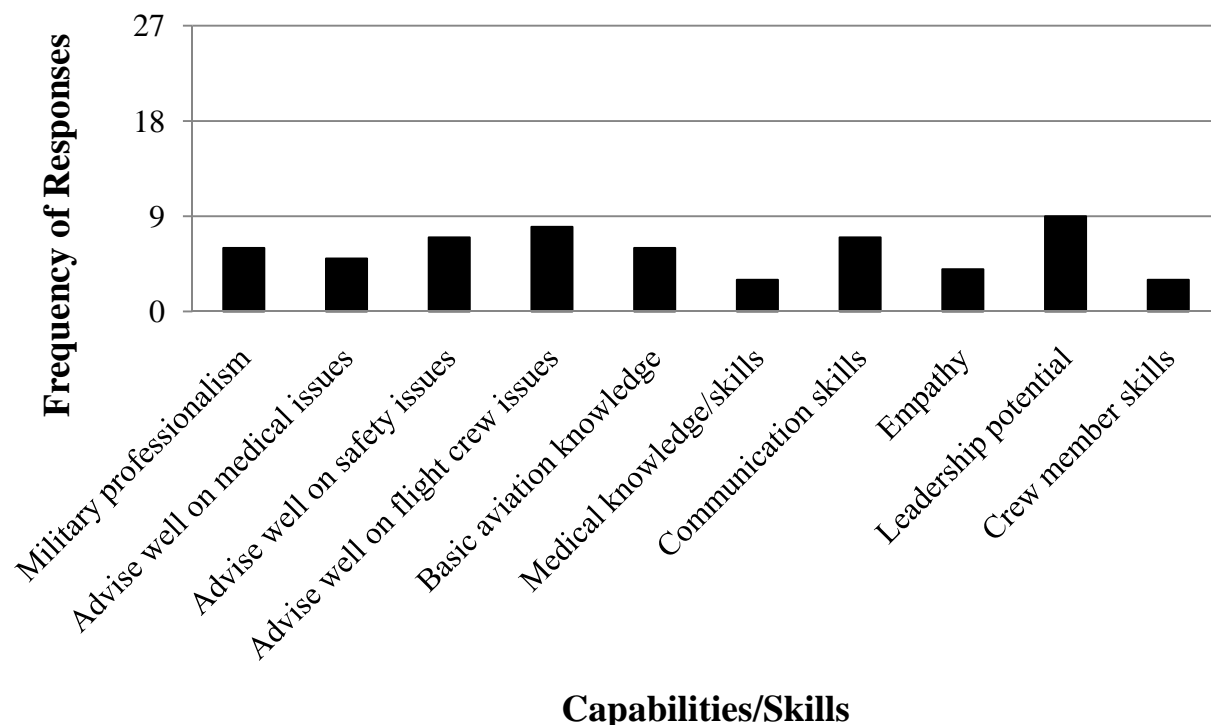


Figure 5. Frequency of line commanders' responses that indicated each capability/skill needs to be more developed in new flight surgeons/APAs.

Respondents then used a Likert scale ranging from 1 (*disagree strongly*) to 5 (*agree strongly*) to rate the extent to which they agreed with a series of statements. The four respondents who indicated that they did not have an APA did not answer the questions regarding an APA resulting in a total of 23 responses. The mean ratings were calculated for each question and are presented in table 2.



Table 2.

Line commanders' mean responses to proficiency questions and frequency of *unsure* responses.

<b>Question</b>	<b><i>M</i></b>	<b><i>SD</i></b>	<b>Frequency <i>Unsure</i></b>
My flight surgeon shares a love of flight with fellow crew members	4.00	1.14	1
My APA shares a love of flight with fellow crew members	3.95	0.95	0
My flight surgeon really understands how a crew member feels when grounded	3.96	1.23	1
My APA really understands how a crew member feels when grounded	4.00	1.25	2
My flight surgeon has a good grasp of flight operations	3.56	1.08	0
My APA has a good grasp of flight operations	3.90	0.97	1
My flight surgeon knows the engine shut down procedure for the aircraft in which he/she flies	3.11	1.41	6
My APA knows the engine shut down procedure for the aircraft in which he/she flies	3.37	1.41	6
My flight surgeon knows the basics of how to fly a helicopter and could briefly manage the flight controls in the event of an emergency	2.50	1.10	4
My APA knows the basics of how to fly a helicopter and could briefly manage the flight controls in the event of an emergency	2.53	1.18	5
My flight surgeon attends pilot meetings regularly (not including safety/stands meetings)	3.00	1.32	4
My APA attends pilot meetings regularly (not including safety/stands meetings)	3.10	1.41	1
My flight surgeon attends safety and standardization meetings regularly	3.64	1.25	1
My APA attends safety and standardization meetings regularly	3.48	1.44	0
My flight surgeon attends Command and Staff meetings regularly	3.88	1.36	0
My APA attends Command and staff meetings regularly	3.86	1.28	0
My flight surgeon tries hard to keep pilots flying, if possible	4.64	0.81	0
My APA tries hard to keep pilots flying, if possible	4.52	0.81	0
My flight surgeon understands our unit's mission	4.36	0.70	0
My APA understands our unit's mission	4.48	0.68	0
My flight surgeon understands what air power brings to ground troops/what we bring to the fight	4.28	0.74	0
My APA understands what air power brings to ground troops/what we bring to the fight	4.30	0.87	0
My flight surgeon displays good crew coordination	3.64	1.18	3
My APA displays good crew coordination	4.00	0.97	2
My flight surgeon has flown in the aircraft in our Unit	3.92	1.41	0
My APA has flown in the aircraft in our unit	4.15	1.27	1
My flight surgeon flies at least 4 hours a month	3.48	1.33	3

Question	M	SD	Frequency <i>Unsure</i>
My APA flies at least 4 hours a month	3.15	1.35	1
My flight surgeon can follow a conversation about standardization	3.96	0.71	2
My APA can follow a conversation about standardization	3.89	0.99	2
My flight surgeon can follow a conversation about aircraft maintenance	3.21	1.18	1
My APA can follow a conversation about aircraft maintenance	3.20	1.06	2
My flight surgeon can relate well to pilots	4.28	0.61	0
My APA can relate well to pilots	4.05	1.00	1
My flight surgeon has enough of an aviation background to make the best possible upslip and downslip medical dispositions	4.16	0.90	0
My APA has enough of an aviation background to make the best possible upslip and downslip medical dispositions	4.20	1.01	1
My flight surgeon actively participates in accident investigations	4.29	0.64	1
My APA actively participates in accident investigations	4.68	1.84	1
My flight surgeon demonstrates concern and compassion for the families of our crew members	4.38	0.65	1
My APA demonstrates concern and compassion for the families of our crew members	4.40	0.68	2

Respondents were asked to indicate the extent to which their unit could provide the current flight surgeon/APA with *on the controls* training. The results indicated that 14.8% do not have an instructor pilot (IP) available, 25.9% could provide an IP once a month or less, 33.3% up to three times a month, 14.8% weekly, and 3.7% several times a week (two respondents did not answer this question). In terms of flight schedule availability for *on the controls* training, 11.1% responded that their unit could not support *on the controls* training, 25.9% once a month, 29.6% up to three times a month, 18.5% weekly, and 7.4% several times a week (two respondents did not answer this question). In terms of fuel, 3.7% responded that their unit could not support *on the controls* training, 22.2% could support *on the controls* training once a month, 18.5% up to three times a month, 14.8% weekly, and 33.3% several times a week (two respondents did not answer this question). With regard to how important *on the controls* training experience is for flight surgeons/APAs to render a best possible upslip/downslip recommendation, 11.1% responded *not at all important*, 14.8% *somewhat important*, 29.6% *important*, 11.1% *very important*, and 25.9% *extremely important* (two respondents did not answer this question). With regard to how important *on the controls* training experience is for a flight surgeon/APA to participate in an accident investigation, 14.8% responded *not at all important*, 7.4% *somewhat important*, 29.6% *important*, 14.8% *very important*, and 25.9% *extremely important* (two respondents did not answer this question). Finally, respondents were asked to indicate the definition of a RAM. Five responded *has accrued at least 500 flight hours*, seven responded *has completed the 12-week rather than the 6-week long course at Fort Rucker*, six responded *has completed a 2- to 3-year preventive and aerospace medical residency training program*, 4 responded *has completed a 3-month flight school in addition to the standard flight surgeon training* (five respondents did not answer this question).

### Comparison of flight surgeon course graduates' and line commanders' responses

Mann-Whitney  $U$  tests were conducted to compare the flight surgeons' responses (i.e., self-perceptions) on the capabilities/skills questions to the line commanders' responses to questions about flight surgeons' level of proficiency. The Mann-Whitney  $U$  test is a non-parametric statistical test that evaluates whether the medians of the dependent variable (i.e., question responses) differ significantly between two groups (i.e., flight surgeons and line commanders). Therefore, scores on the dependent variable were converted to ranks.

The results of this comparison indicated significant discrepancy in perception of six capabilities/skills. Specifically, line commanders indicated stronger agreement that their flight surgeons attended safety meetings on a regular basis ( $M = 61.76$ ) than did flight surgeons ( $M = 46.03$ ),  $z = -2.42$ ,  $p = 0.016$ .

Additionally, line commanders indicated stronger agreement that their flight surgeons try hard to keep pilots flying ( $M = 59.84$ ), if possible, than did flight surgeons ( $M = 46.68$ ),  $z = -2.24$ ,  $p = 0.025$ . Line commanders also indicated stronger agreement that their flight surgeons had flown in the aircraft in their unit ( $M = 61.90$ ) than did flight surgeons ( $M = 45.25$ ),  $z = -2.61$ ,  $p = 0.009$ .

Finally, line commanders indicated stronger agreement that their flight surgeons can follow a conversation about standardization ( $M = 58.41$ ) than did flight surgeons ( $M = 45.38$ ),  $z = -2.15$ ,  $p = 0.032$ . Conversely, flight surgeons indicated stronger agreement that they understood their unit's mission ( $M = 52.09$ ) than did line commanders ( $M = 41.94$ ),  $z = -1.81$ ,  $p = 0.070$ . Likewise, flight surgeons indicated stronger agreement that they understood what air power brings to ground troops and what it brings to the fight ( $M = 54.73$ ) than did line commanders ( $M = 36.00$ ),  $z = -3.48$ ,  $p = 0.001$ .

## Discussion

Overall, line commanders who responded to the survey hold a favorable impression of U.S. Army flight surgeons and APAs, particularly with respect to medical skills. Many line commanders elected to expand on admiration for their provider's dedication and worth to the unit in the comments section of the survey. While the overall response was positive, some responses will aid in identifying how the primary flight surgeon and RAM curricula can be improved. Approximately 20% of line commanders who responded to the survey felt that military professionalism, basic aviation knowledge, leadership skills, and crew member skills were weaknesses of his/her unit's flight surgeon/APA. In most instances, the weaknesses in military and aviation officer skills were noted more often in flight surgeons than in APAs.

Flight surgeons who receive their flight surgeon training early in their career progression often present to USASAM with a weaker military background than APAs. Notably, over a third of the line commanders who responded to the survey indicated the importance of USASAM further developing basic crew member skills and staff officer skills such as advising the commander in both flight surgeons and APAs. Another notable weakness identified by line commander respondents was leadership skills, which suggests that flight surgeons may not sufficiently take the initiative for medical training. Specifically, flight surgeons need to provide training to crew members and assigned medics (including first responders) as well as assist one another in developing skills as medical officers.

Less than 25% of flight surgeon course graduate respondents affirmed at least a moderate amount of *on the controls* flight training after having completed the flight surgeon course, which had previously been a critical part of training for all flight surgeons prior to graduation and remains a critical part of flight surgeon training for the U.S. Air Force and U.S. Navy. While this training has remained intact for U.S. Air Force and U.S. Navy, it was eliminated from the U.S. Army flight surgeon course. *On the controls* training is important for gaining perspective of crew member duties and also serves to expand the flight surgeons/APAs' knowledge of basic aviation terminology and practices. Although there does not appear to be a deficit in global knowledge of flight surgeon duties as a result of elimination of this training, deficits in basic flight knowledge and crew member duties are evident and may be a direct result of elimination of the *on the controls* course training. It should also be noted that any experience a flight surgeon has with *on the controls* training is informal and occurs post-graduation. Commanders seemed to be mostly unaware that flight surgeons/APAs no longer receive this training formally and subsequently overestimate the ability of flight surgeons/APAs to assist with emergency procedures in-flight.

Furthermore, there is a significant discrepancy in the line commanders' estimation of flight surgeon/APA participation in flight in terms of meeting flight hour minimums. Involvement of local flight surgeons/APAs in terms of flight hours, flight experience, and potentially with regard to safety and standardization meetings does not appear to be tracked thoroughly by the command. Importantly, U.S. Army flight surgeons, unlike U.S. Air Force flight surgeons, do not undergo readiness level (RL) progression, which has been used to ensure critical skills such as those attained through survival, evasion, resistance, and escape (SERE) training and active crew participation are fulfilled. Given operational and manpower constraints of fighting multiple simultaneous conflicts, it is difficult for flight surgeon students to compete with student aviators

for *on the controls* training along with the fuel, aircraft, and other support required for this training. Other options might include civilian resourcing for a flight orientation experience and/or development of an RL progression system for flight providers which would encompass *on the controls* flight experience as part of a mandatory post-graduate training evolution.

### Conclusions

Although this survey affirms a high level of overall satisfaction with flight surgeons/APAs, a number of important deficiencies have emerged. Basic aviation knowledge and participation in flight (i.e., *on the controls*) is lacking – an evident weakness in many flight surgeon course graduates. Provider involvement in flight activities and flight related activities does not appear to be thoroughly tracked at the local level (unit level) upon graduation from the flight surgeon and RAM courses. Given a lack of RL progression for flight surgeons/APAs, this can be viewed as an inevitable consequence. To whatever extent possible, *on the controls* flight training should be reinstituted at the USASAM. More importantly, flight surgeons/APAs should receive RL progression upon graduation from the course as a means to ensure appropriate participation in flight activities as well as appropriate engagement in leadership activities such as instructing crew members and mentoring medical subordinates. Deficiencies remain in basic military officership skills among medical officers. With increasing time investments into meeting civilian medical requirements, the best solution appears to be initiation of officer skills training well prior to the flight surgeon course as well as ensuring Commanders have a strong understanding of the training given to flight surgeons and aeromedical physician assistants.

## Appendix A.

### Flight surgeon course graduates survey.

This questionnaire is anonymous. Responses will not be linked to you or to your Unit. Results will be used exclusively for the purposes of flight provider training improvement. Please answer frankly and to the best of your ability.

1. I graduated the flight surgeon primary course in \_\_\_\_ (year)
  2. I have approximately \_\_\_\_ years experience as a flight surgeon with an operational Unit
  3. I have approximately \_\_\_\_ months of combat deployment experience as a flight surgeon
  4. I have approximately \_\_\_\_ hours in 'on the controls' actual flight experience
  5. I am a \_\_\_\_PA \_\_\_\_FS \_\_\_\_Nurse \_\_\_\_Other
  6. I used my FS training at least once in the year following my graduation \_\_\_\_Y/N
- 7) I have the following strengths (check all that apply)
- a) Military professionalism
  - b) Capacity to advise well on medical issues
  - c) Capacity to advise well on safety issues
  - d) Capacity to advise well on flight crew issues
  - e) Basic aviation knowledge
  - f) Medical knowledge/skills
  - g) Communication skills
  - h) Empathy
  - i) Leadership potential
  - j) Crew member skills
  - k) Other (please explain if checked) \_\_\_\_\_
- 8) I have the following weaknesses (check all that apply)
- a) Military professionalism
  - b) Capacity to advise well on medical issues
  - c) Capacity to advise well on safety issues
  - d) Capacity to advise well on flight crew issues
  - e) Basic aviation knowledge
  - f) Medical knowledge/skills
  - g) Communication skills
  - h) Empathy
  - i) Leadership potential
  - j) Crew member skills
  - k) Other (please explain if checked) \_\_\_\_\_

9) The most important things the school house should develop MORE in new flight surgeons/aeromedical physicians include (check all that apply)

- a) Military professionalism
- b) Capacity to advise well on medical issues
- c) Capacity to advise well on safety issues
- d) Capacity to advise well on flight crew issues
- e) Basic aviation knowledge
- f) Medical knowledge/skills
- g) Communication skills
- h) Empathy
- i) Leadership potential
- j) Crew member skills
- k) Other (please explain if checked) \_\_\_\_\_

Please rate the extent to which the following are accurate

1) Totally false 2) Mostly false 3) Neutral 4) Mostly true 5) Totally true 6) Unsure

- 10) I share a love of flight with the pilots in my Unit
- 11) I really understand what it means to a crew member to be grounded
- 12) I have a good grasp of flight operations
- 13) I know what to do in an in-flight emergency
- 14) I could take the controls in the event of an in-flight emergency/sudden incapacitation of pilots
- 15) I attend pilot meetings regularly (not including safety/stands meetings)
- 16) I attend safety and stands meetings regularly
- 17) I try hard to keep pilots up if possible
- 18) I understand our Unit's mission
- 19) I understands what air power brings to ground troops/what we bring to the fight
- 20) I display good crew coordination
- 21) I have flown the airframes in our Unit
- 22) I fly at least 4 hours a month
- 23) I can follow a conversation about standardization
- 24) I can follow a conversation about aircraft maintenance
- 25) I can relate well to pilots
- 26) I have enough of an aviation background to make the best possible upslip and down slip medical dispositions

27) To what extent do you receive 'at the controls' training (formal or informal) at your current Unit

- a) To no extent (No on the controls experience)
- b) To a very limited extent (5 times total or less since assignment)
- c) To a limited extent (Once a month or less)
- d) To a moderate extent (several times a month)
- e) To a good extent (weekly)
- f) To a great extent (several times a week)

28) How important do you feel an 'at the controls' flight training experience is for a flight doc to render a *best possible* upsip/downsip recommendation to the Commander

- a) Not at all – an 'on the controls' flight experience is irrelevant
- b) To a limited extent
- c) To a moderate extent
- d) To a good extent
- e) To a great extent – an 'at the controls' flight experience is critical

29) A RAM (Resident in Aerospace Medicine) is (mark best answer)

- a) A flight surgeon who has accrued at least 500 flight hours
- b) A flight surgeon who completed the 12 week rather than 6 week 'long course' at Ft Rucker
- c) A flight surgeon who is completing a 2-3 year preventive and aerospace medicine residency training program
- d) A flight surgeon who completed a 3 month flight school in addition to the standard flight surgeon training

OTHER COMMENTS OR INSIGHTS INTO HOW WE CAN PROVIDE THE BEST POSSIBLE MEDICAL PROVIDER PRODUCT TO YOUR UNIT:

Thank you!



## Appendix B.

### Line commander survey.

This questionnaire is anonymous. Responses will not be linked to you, your medical providers or your Unit. Results will be used exclusively for the purposes of flight provider training improvement. Please answer frankly and to the best of your ability.

1. My current flight surgeon displays strengths in the following areas (check all that apply)

- a) Military professionalism
- b) Capacity to advise well on medical issues
- c) Capacity to advise well on safety issues
- d) Capacity to advise well on flight crew issues
- e) Basic aviation knowledge
- f) Medical knowledge/skills
- g) Communication skills
- h) Empathy
- i) Leadership potential
- j) Crew member skills
- k) Other (please explain if checked) \_\_\_\_\_

2. My current aeromedical physician assistant (APA) displays strengths in the following areas (check all that apply/annotate N/A if you do not have an aeromedical physician assistant)

- a) Military professionalism
- b) Capacity to advise well on medical issues
- c) Capacity to advise well on safety issues
- d) Capacity to advise well on flight crew issues
- e) Basic aviation knowledge
- f) Medical knowledge/skills
- g) Communication skills
- h) Empathy
- i) Leadership potential
- j) Crew member skills
- k) Other (please explain if checked) \_\_\_\_\_
- l) N/A, I do not have an aeromedical physician assistant/APA

3. My current flight surgeon displays weaknesses in the following areas (check all that apply)

- a) Military professionalism
- b) Capacity to advise well on medical issues
- c) Capacity to advise well on safety issues
- d) Capacity to advise well on flight crew issues
- e) Basic aviation knowledge
- f) Medical knowledge/skills
- g) Communication skills
- h) Empathy
- i) Leadership potential
- j) Crew member skills
- k) Other (please explain if checked) \_\_\_\_\_

4. My current aeromedical physician assistant (APA) displays weaknesses in the following areas (check all that apply/annotate N/A if you do not have an aeromedical physician assistant)

- a) Military professionalism
- b) Capacity to advise well on medical issues
- c) Capacity to advise well on safety issues
- d) Capacity to advise well on flight crew issues
- e) Basic aviation knowledge
- f) Medical knowledge/skills
- g) Communication skills
- h) Empathy
- i) Leadership potential
- j) Crew member skills
- k) Other (please explain if checked) \_\_\_\_\_
- l) N/A, I do not have an aeromedical physician assistant/APA

5. The most important areas where new flight surgeons/aeromedical physicians need MORE development at the school house include (check all that apply)

- a) Military professionalism
- b) Capacity to advise well on medical issues
- c) Capacity to advise well on safety issues
- d) Capacity to advise well on flight crew issues
- e) Basic aviation knowledge
- f) Medical knowledge/skills
- g) Communication skills
- h) Empathy
- i) Leadership potential
- j) Crew member skills
- k) Other (please explain if checked) \_\_\_\_\_

Please rate the extent to which the following are accurate

6. My flight surgeon shares a love of flight with fellow crew members

- a) Disagree strongly
- b) Disagree
- c) Neutral
- d) Agree
- e) Agree Strongly
- f) Unsure

7. My aeromedical physician assistant (APA) shares a love of flight with fellow crew members

- a) Disagree strongly
- b) Disagree
- c) Neutral
- d) Agree
- e) Agree Strongly
- f) Unsure
- g) N/A, I do not have an aeromedical physician assistant/APA

8. My flight surgeon really understands how a crew member feels when grounded

- a) Disagree strongly
- b) Disagree
- c) Neutral
- d) Agree
- e) Agree Strongly
- f) Unsure

9. My aeromedical physician assistant (APA) really understands how a crew member feels when grounded

- a) Disagree strongly
- b) Disagree
- c) Neutral
- d) Agree
- e) Agree Strongly
- f) Unsure
- g) N/A, I do not have an aeromedical physician assistant/APA

10. My flight surgeon has a good grasp of flight operations
- a) Disagree strongly
  - b) Disagree
  - c) Neutral
  - d) Agree
  - e) Agree Strongly
  - f) Unsure
11. My aeromedical physician assistant (APA) has a good grasp of flight operations
- a) Disagree strongly
  - b) Disagree
  - c) Neutral
  - d) Agree
  - e) Agree Strongly
  - f) Unsure
  - g) N/A, I do not have an aeromedical physician assistant/APA
12. My flight surgeon knows the engine shut down procedure for the aircraft in which he/she flies
- a) Disagree strongly
  - b) Disagree
  - c) Neutral
  - d) Agree
  - e) Agree Strongly
  - f) Unsure
13. My aeromedical physician assistant (APA) knows the engine shut down procedure for the aircraft in which he/she flies
- a) Disagree strongly
  - b) Disagree
  - c) Neutral
  - d) Agree
  - e) Agree Strongly
  - f) Unsure
  - g) N/A, I do not have an aeromedical physician assistant/APA

14. My flight surgeon knows the basics of how to fly a helicopter and could briefly manage on the controls in the event of an emergency

- a) Disagree strongly
- b) Disagree
- c) Neutral
- d) Agree
- e) Agree Strongly
- f) Unsure

15. My aeromedical physician assistant (APA) knows the basics of how to fly a helicopter and could briefly manage on the controls in the event of an emergency

- a) Disagree strongly
- b) Disagree
- c) Neutral
- d) Agree
- e) Agree Strongly
- f) Unsure
- g) N/A, I do not have an aeromedical physician assistant/APA

16. My flight surgeon attends pilot meetings regularly (not including safety/stands meetings)

- a) Disagree strongly
- b) Disagree
- c) Neutral
- d) Agree
- e) Agree Strongly
- f) Unsure

17. My aeromedical physician assistant (APA) attends pilot meetings regularly (not including safety/stands meetings)

- a) Disagree strongly
- b) Disagree
- c) Neutral
- d) Agree
- e) Agree Strongly
- f) Unsure
- g) N/A, I do not have an aeromedical physician assistant/APA

18. My flight surgeon attends safety and standardization meetings regularly

- a) Disagree strongly
- b) Disagree
- c) Neutral
- d) Agree
- e) Agree Strongly
- f) Unsure

19. My aeromedical physician assistant (APA) attends safety and standardization meetings regularly

- a) Disagree strongly
- b) Disagree
- c) Neutral
- d) Agree
- e) Agree Strongly
- f) Unsure
- g) N/A. I do not have an aeromedical physician assistant/APA

20. My flight surgeon attends Command and Staff meetings regularly

- a) Disagree strongly
- b) Disagree
- c) Neutral
- d) Agree
- e) Agree Strongly
- f) Unsure

21. My aeromedical physician assistant (APA) attends Command and staff meetings regularly

- a) Disagree strongly
- b) Disagree
- c) Neutral
- d) Agree
- e) Agree Strongly
- f) Unsure
- g) N/A, I do not have an aeromedical physician assistant/APA

22. My flight surgeon tries hard to keep pilots flying, if possible

- a) Disagree strongly
- b) Disagree
- c) Neutral
- d) Agree
- e) Agree Strongly
- f) Unsure

23. My aeromedical physician assistant (APA) tries hard to keep pilots flying, if possible

- a) Disagree strongly
- b) Disagree
- c) Neutral
- d) Agree
- e) Agree Strongly
- f) Unsure
- g) N/A, I do not have an aeromedical physician assistant/APA

24. My flight surgeon understands our Unit's mission

- a) Disagree strongly
- b) Disagree
- c) Neutral
- d) Agree
- e) Agree Strongly
- f) Unsure

25. My aeromedical physician assistant (APA) understands our Unit's mission

- a) Disagree strongly
- b) Disagree
- c) Neutral
- d) Agree
- e) Agree Strongly
- f) Unsure
- g) N/A, I do not have an aeromedical physician assistant/APA

26. My flight surgeon understands what air power brings to ground troops/what we bring to the fight

- a) Disagree strongly
- b) Disagree
- c) Neutral
- d) Agree
- e) Agree Strongly
- f) Unsure

27. My aeromedical physician assistant (APA) understands what air power brings to ground troops/what we bring to the fight

- a) Disagree strongly
- b) Disagree
- c) Neutral
- d) Agree
- e) Agree Strongly
- f) Unsure
- g) N/A, I do not have an aeromedical physician assistant/APA

28. My flight surgeon displays good crew coordination

- a) Disagree strongly
- b) Disagree
- c) Neutral
- d) Agree
- e) Agree Strongly
- f) Unsure

29. My aeromedical physician assistant (APA) displays good crew coordination

- a) Disagree strongly
- b) Disagree
- c) Neutral
- d) Agree
- e) Agree Strongly
- f) Unsure
- g) N/A, I do not have an aeromedical physician assistant/APA



30. My flight surgeon has flown in the aircraft in our Unit

- a) Disagree strongly
- b) Disagree
- c) Neutral
- d) Agree
- e) Agree Strongly
- f) Unsure

31. My aeromedical physician assistant (APA) has flown in the aircraft in our Unit

- a) Disagree strongly
- b) Disagree
- c) Neutral
- d) Agree
- e) Agree Strongly
- f) Unsure
- g) N/A, I do not have an aeromedical physician assistant/APA

32. My flight surgeon flies at least 4 hours a month

- a) Disagree strongly
- b) Disagree
- c) Neutral
- d) Agree
- e) Agree Strongly
- f) Unsure

33. My aeromedical physician assistant (APA) flies at least 4 hours a month

- a) Disagree strongly
- b) Disagree
- c) Neutral
- d) Agree
- e) Agree Strongly
- f) Unsure
- g) N/A, I do not have an aeromedical physician assistant/APA

34. My flight surgeon can follow a conversation about standardization

- a) Disagree strongly
- b) Disagree
- c) Neutral
- d) Agree
- e) Agree Strongly
- f) Unsure

35. My aeromedical physician assistant (APA) can follow a conversation about standardization

- a) Disagree strongly
- b) Disagree
- c) Neutral
- d) Agree
- e) Agree Strongly
- f) Unsure
- g) N/A, I do not have an aeromedical physician assistant/APA

36. My flight surgeon can follow a conversation about aircraft maintenance

- a) Disagree strongly
- b) Disagree
- c) Neutral
- d) Agree
- e) Agree Strongly
- f) Unsure

37. My aeromedical physician assistant (APA) can follow a conversation about aircraft maintenance

- a) Disagree strongly
- b) Disagree
- c) Neutral
- d) Agree
- e) Agree Strongly
- f) Unsure
- g) N/A, I do not have an aeromedical physician assistant/APA

38. My flight surgeon can relate well to pilots

- a) Disagree strongly
- b) Disagree
- c) Neutral
- d) Agree
- e) Agree Strongly
- f) Unsure

39. My aeromedical physician assistant (APA) can relate well to pilots

- a) Disagree strongly
- b) Disagree
- c) Neutral
- d) Agree
- e) Agree Strongly
- f) Unsure
- g) N/A, I do not have an aeromedical physician assistant/APA

40. My flight surgeon has enough of an aviation background to make the best possible upslip and down slip medical dispositions

- a) Disagree strongly
- b) Disagree
- c) Neutral
- d) Agree
- e) Agree Strongly
- f) Unsure

41. My aeromedical physician assistant (APA) has enough of an aviation background to make the best possible upslip and down slip medical dispositions

- a) Disagree strongly
- b) Disagree
- c) Neutral
- d) Agree
- e) Agree Strongly
- f) Unsure
- g) N/A, I do not have an aeromedical physician assistant/APA

42. My flight surgeon actively participates in accident investigations

- a) Disagree strongly
- b) Disagree
- c) Neutral
- d) Agree
- e) Agree Strongly
- f) Unsure
- g) N/A, No accidents under my command.

43. My aeromeical physician assistant (APA) actively participates in accident investigations

- a) Disagree strongly
- b) Disagree
- c) Neutral
- d) Agree
- e) Agree Strongly
- f) Unsure
- g) N/A. No accidents under my command
- h) N/A. I do not have an aeromedical physician assistant/APA

44. My flight surgeon demonstrates concern and compassion for our crew member's families

- a) Disagree strongly
- b) Disagree
- c) Neutral
- d) Agree
- e) Agree Strongly
- f) Unsure

45. My aeromedical physician assistant (APA) demonstrates concern and compassion for our crew member's families

- a) Disagree strongly
- b) Disagree
- c) Neutral
- d) Agree
- e) Agree Strongly
- f) Unsure
- g) N/A. I do not have an aeromedical physician assistant/APA

Please answer to the best of your knowledge

*At this time, to what extent can your Unit provide your flight surgeon and aeromedical physician assistant 'at the controls' training...*

46. In terms of instructor pilot availability

- a) My Unit cannot support this
- b) Once a month or less
- c) Up to 3 times a month)
- d) Weekly
- e) Several times a week

47. In terms of hours available on the flight schedule

- a) My Unit cannot support this
- b) Once a month or less
- c) Up to 3 times a month)
- d) Weekly
- e) Several times a week

48. In terms of fuel

- a) My Unit cannot support this
- b) Once a month or less
- c) Up to 3 times a month)
- d) Weekly
- e) Several times a week

49. How important do you believe an 'on the controls' flight training experience is for a flight surgeon or aeromedical physician assistant to render a *best possible* upsip/downslip recommendation to the Commander

- a) Not at all – an 'on the controls' flight experience is irrelevant
- b) Somewhat important
- c) Important
- d) Very important
- e) Extremely important - 'on the controls' flight experience is critical

50. How important do you believe an 'on the controls' flight experience is for a flight surgeon or aeromedical physician assistant to participate in accident investigation

- a) Not at all – an 'on the controls' flight experience is irrelevant
- b) Somewhat important
- c) Important
- d) Very important
- e) Extremely important - 'on the controls' flight experience is critical

51. A flight surgeon who has received 'RAM' training is flight surgeon who  
(Mark best answer)

- a) Has accrued at least 500 flight hours
- b) Has completed the 12 week rather than 6 week 'long course' at Ft Rucker
- c) Has completed a 2-3 year preventive and aerospace medicine residency training program
- d) Has completed a 3 month flight school in addition to the standard flight surgeon training

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OTHER COMMENTS OR INSIGHTS INTO HOW WE CAN PROVIDE THE BEST  
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